Sonic Studios™ M-Audio Compact Flash Portable Recorder Review

MODEL: MicroTrack 24/96

UPDATED 7/18/2007 VERSION

(This review is being written/edited; e-mail suggestions welcome)

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FIRMWARE INPUTS CONTROLS VU METER REC TIME BATTERY TIPS Memory ADD-ON PREAMP POWERING

This review is narrowly focused ONLY on deck operational features, ease of use, consistent recording ability/quality, and design fault issues related to stereo-surround field recordists with direct connected mics; issues usually not discussed in commercial magazine reviews. In other words, how suitable is the MT24/96 as an 'all-in-one' deck solution for the professional field recordist?

M-Audio's Microtrack 24/96 CF Deck

Introduction: After many years of waiting, an all-in-one affordable, compact, new technology (NT) audio portable recorder has arrived in November of 2005 taking form of M-Audio's Microtrack 24/96. Although maybe NOT the perfect deck for those wishing seamless SPDIF input at all sample rates, this deck is sufficient to have hit the target for microphone field recording requirements, at least with most recently updated firmware revision 1.4.6 installed. Because of nonuser replaceable lithium battery running for up to 4 hours, Microtrack seems more practical running on externally connected USB power supply.

(NOTES: Newer firmware versions now reliably performs almost seamless recording by automatically creating a new file within 5 seconds as recording crosses the 2 GIG file limit.

TRS inputs have on/off (up to) 24 volts phantom power feature that's a bit weak/noisy. Most find best performance by externally powering condenser type mics.

Very compact Microtrack 24/96 allows many WAV/MP3 recording modes with select-your-desired-quality/file sizes for any size/type compact flash card storage. This includes various flavors of MP3 lossy encoding for reduced quality/file size, and high definition audio 16/24bit depth at 44.1, 48, 88.2, 96K sample rates.

Microphone audio input is also expanded over miniDAT with having both 3.5mm stereo mic jack (+5 volt for electret mic) at two gain settings, and (+12-30 volt) phantom power dual balanced TRS 1/4 inch line/mic with 6 gain selections.

Surprisingly, all analog inputs on this deck have tested to be adequately quiet (tested with phantom power off) and of good wide bandwidth quality for at least 16bit depth mic input requirements. However, suggest best for 24 bit depth recording adding external mic preamplifier outputting analog line level for lowest noise higher definition recording requirements.

Internal lithium-ion battery is NOT user replaceable; a definite shortcoming for extended all-day use and for remote location field projects. However, using an external powering accessory, like the BC-MT power sled, keeps MicroTrack operating with fully charged internal battery for unlimited field recording time.

These decks should now be shipped with latest firmware v1.4.6 installed, so you might check your MT deck for having this version, or if additional updates became available. Resource rich forum group for portable recording gear and live sound recording interests is www.taperssection.com

Summary: As-is, Microtrack 24/96 deck seems very good to excellent as an all-in-one recorder for at least self-[powered microphone input field recording, and for DSM™ stereo-surround mics only with passive PA adapter, or use external preamp for optimum quality recording.

+++ VERY SUNLIGHT VISIBLE +++ LCD Display

Right-side compact flash card slot, pause/navigation/select button

Left-side menu button, hold, 3-pos.input sensitivity, phantom power slide switches

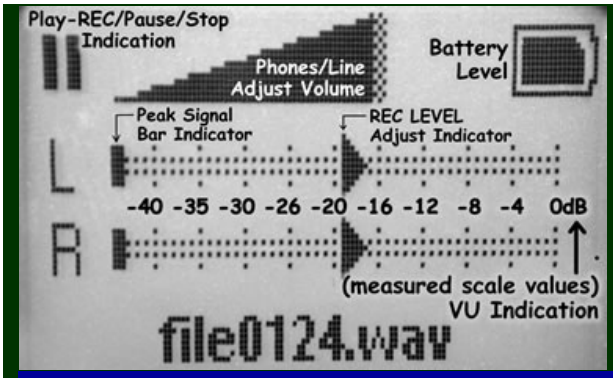
Top & Bottom inputs/outputs

Microtrack LCD display with added function notation + missing VU calibrations (shown below).

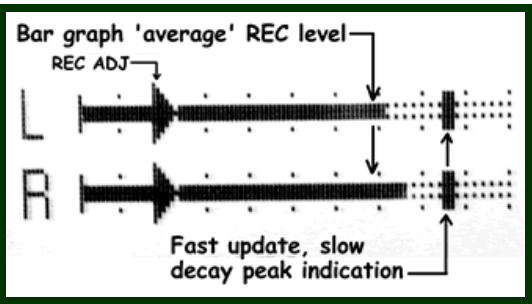
Two VU indications; (slower responding) average level and faster peak signal indication with slow decay indication. Outdoor visibility is quite good, and back light works well enough in low lighting.

(NOTE: Outdoor LCD display visibility is ONE feature total lacking in Edirol/Roland's otherwise excellent R-09 flash deck.)

VU indication is accurate, but feels too



slow. Is Microtrack's one feature needing improvement. With firmware version 1.2.0 and later (latest is v1.4.5), there's far less feeling of being 'out-of-touch' with recording dynamics.



The peak indicator response has been improved to to show faster peaks, and holds the peak reading for sufficiently long time for easy reading. However, average 'filled bar' indication while slightly improved, still seems too slow. VU indications still need to update at least 3 times faster for a more professional VU 'feel'.

Add dB scale to the MT 24/96 VU

Yes, it's disappointing M-Audio omitted a dB VU scale. While not fatal, most find dB marked VU scale is at least helpful to gage needed headroom for avoiding clipping, and adjusting for adequate recording levels.

(NEXT TIP)

Practical adhesive label showing the missing dB scale markings is FREE if lucky and/or having courage for accepting challenges requiring hand-eye-brain coordination.

FREE 3-LINE DB SCALE LABEL
(AS SHOWN HERE)
-40 35 30 26 20 16 12 -6 -4 0dB
-40 35 30 26 20 16 12 -6 -4 0dB
-40 35 30 26 20 16 12 -6 -4 0dB
(US Penny shown here for scale)
-40 35 30 26 20 16 12 -6 -4 0dB
Clear 1" wide laminated TZ tape used with Brother 9200DX USB connected label printer. Print is very, very small 3pt, and carefully scissors-cut 1-line section is difficult separating from adhesive-side protective backing, even with fine tweezers. Placement on the LCD display is not easily done, and may take few tries to get good alignment.

If lucky to have Brother 300dpi USB connected TZ label printer, and want to print this label yourself and for others, then HERE is the design file for free download, compliments of Sonic Studios.

For those not so lucky with having the printer, but in US or Canada, and still wanting the challenge of applying a much needed very tiny label, get the FREE 3-line printed label *(as shown on the right)* by sending #10 or smaller self-addressed -postage paid envelope, to: Sonic Studios, DB LABEL OFFER, 1311 Sunny CT., Sutherlin, OR 97479 (USA)

NOTE: Label requests arriving without addressed envelope and/or full 1st Class postage will be vaporized!

The MicroTrack 24/96/96 deck has two types of microphone inputs, with one serving also as LINE input.

The first input is consumer 'mini-deck-typical' 3.5mm stereo jack, limited with ONLY two mic gain settings ("L" and "M or H").

The second input is for professional dual 1/4" balanced TRS plugs serving up one LINE level setting ("L"), and 5 mic gain selections ("M", "H", and +27 dB boosted "L","M", "H").

Chart is analog gain settings; 8-10 dB gain jumps with each successive combination; rebooting may be necessary after switch adjustments or until firmware fixes faults

INPUT	L/M/H SWITCH SETTING	REC LEVEL ADJUSTMENT SETTING (1)	dBv DECIBELS INPUT For 0 dB VU full scale	RMS VOLTS INPUT For 0 dB VU full scale
3.5mm JACK	L	MINIMUM SETTING*	-13.3	166 mv
	M, H		-25.2	42.5 mv
DUAL 1/4" TRS JACKS	L (Line)	MINIMUM SETTING* (full at left indication)	+3.2	1.12 v
	M		-5.6	410 mv
	H		-14.3	150 mv
1/4" TRS with +27 dB boost	L	MINIMUM SETTING* (full at left indication)	-23	52.6 mv
	M		-32	18.5 mv
	H		-41	6.6 mv

*(1) NOTES: dBv = dBm = 0.775 volt RMS = 0 dB reference level.. REC level adjustment is set full left (at minimum). The signal now has 12 dB less (recording) gain than if the REC level adjustment is set 'full-up' where 12 dB MORE signal sensitivity than shown in the chart is possible.

Example: Chart indicates 3.5mm jack's most sensitive setting is "M (or H") with -25.2 dB (42.5 mv) needed to produce full scale VU. Since REC Level adjustment is at minimum for this measurement, anything LESS than 42.5 mv is OK to input and NOT OVERLOAD CLIP DISTORT. A STRONGER signal will require setting change to "L" for 8-10 dB of required headroom margin. REC adjustment may then increase up to 12 dB of additional gain as often necessary when VU indication (recording audio signal) shows too low.

The MicroTrack 24/96 has two REC Level adjustment up-down buttons that can be selected to independently, or ganged together (stereo mode) adjust the recording level as displayed on the VU indication bar. However, **the REC level adjustment is different from the usual**, it is actually a GAIN control with **ONLY 12 dB of adjustment range**.

In other words, the recording LEVEL adjustment is actually a '**fine gain adjustment**' with unexpected limited range adding 12 dB adjustment to choice of (L/M/H) gain switch. **There is NO ZERO** (full down)or 'no-signal-adjust-to-setting' like usually found in recorders with real mechanical type knob or digital up-down buttons.

However, although at first awkward, this scheme does work, and allows a continuous(-54 to +3 dB) input signal range ability.,

The limited 12 dB up-down REC level adjustment in concert with the 8-10 dB stepped L/M/H switch does give the MicroTrack a continuous wide (TRS) input range and seems a definite plus or strength to balance the more complex gain selection process for controlling REC levels.

In contrast, the minijack input is simply gain limited to mostly work with higher signal output electret condenser microphones mics, but not as compatible with dynamic or lower output DSM mics.

The Microtrack's low/medium/boosted dual TRS inputs are adequate for most types of microphones, and is clean for moderate 1-2 volt RMS professional type LINE input levels. An attenuation pad may be needed for professional mixing boards, external preamplifiers, and directly connected externally powered 48-100 volt condenser mics.

Newest, firmware 1.2.0 eliminates the need for stopping the recording in any way with every change of the L/M/H switch setting! So unless the HOLD is actuated, recordists can switch input sensitivity on-the-fly while recording. MicroTrack now has ability to allow REC level VU indications while in REC Pause mode.

Microtrack 24/96 topside controls buttons **are a good size**, and easy to find and

When Microtrack 24/96 topside button controls are pressed (actuated), they also produce a (pure mechanical) LOUD click

Many of the better mics used for stereo-surround recording are very good at documenting 'click-

operate. Mostly a **very nice design**.

Impressively designed-in tactile feel *(molded bumps, dimples)* before, and during finger actuation with a solid *felt* click gives ability to **work this deck blindfolded***(wearing monitor headphones)*.

Menu-selected 'Stereo' mode locks REC level buttons together for automatically precision channel balance at all adjustment settings.

sound; clever design to actually 'hear a button push.'

> **I supposed clearly hearing a button click helps** to assure that ***just enough*** finger pressure is applied; seems a good feature, and maybe extends button service life with less misapplied hard pressing. The loud clicking sound definitely **helps when when wearing thick gloves**.

However reassuring hearing a control button click sound, the MT24/96 deck is a PORTABLE RECORDER, often used with directly connected microphone(s). The button clicks are loud, and easily heard *(and recorded)* at a 3 meter distances in a quiet ambient.

sounds' into the recording!

> Pushing the right-side silent panel located 'navigation' button pauses the recording so button (and other) sounds are not recorded, however**, in pause mode, VU indication also stops.**

The delete (DEL) button usually needs two pushes to actually delete a file, but **is too easy to accidentally actuate** when handling the *(unlocked)* deck. Addition of a permanent molded-in button guard is suggested; same problem with REC button.

TIP: Best to place some sticky-side Velcro *(as shown at left)*, **makes DEL actuation less easy.** *(Next tip)*

Recording Level adjustment buttons have nearby green and red LED indication of minimum signal activity and overload clip.

Green LEDs indicate (very low) REC signal activity. These LEDs show the presence of most any REC signals not (yet) showing VU indications.

Red CLIP LEDs are responsive to indicate REC overloads.

Record button starts and ends the recording process. Recording button functions immediately to start the recording from any non-recording state, even if in the menu display mode.

Pressing the Navigation Toggle switch (not shown in view at left) while in REC mode will PAUSE/RESUME the recording

REC LEVEL adjust buttons and NAV switch now work consistently with latest firmware. Giving stable one-jump adjustment steps with each 'click' regardless of press-release method.

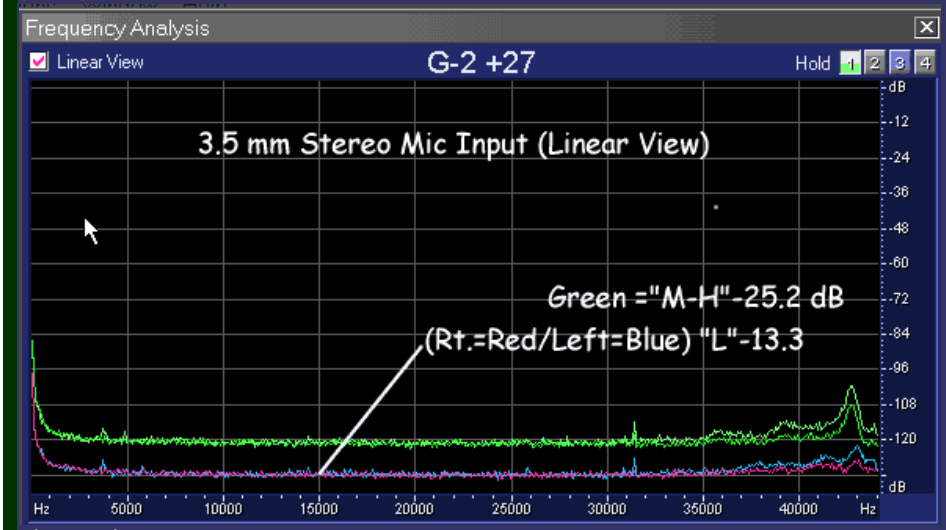
Holding down the REC LEVEL adjust button(s) activates a 'fast repeat' mode for multiple adjustment steps in a short time. 'Fast repeat' mode is activated with little delay, so maybe practice getting single steps.

Volume up-down control simultaneously adjust both headphones and (surprisingly) LINE level outputs. Usually LINE level is NOT so adjustable

Noise spectrums of minijack (MJ) and 1/4 inch (TRS) analog inputs

(All inputs 1000 ohms 1% metal film resistor loaded to ground unless noted; 24bit/88.2K sample rate data)

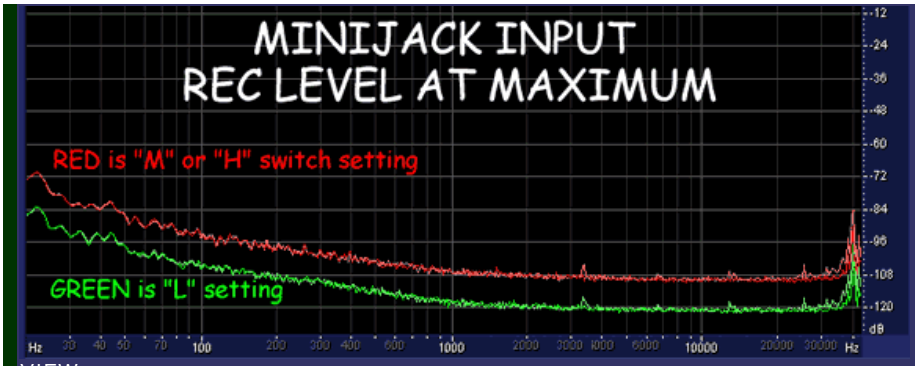
Minijack input


Frequency Analysis
Linear View
G-2 +27
Hold 1 2 3 4
3.5 mm Stereo Mic Input (Linear View)
Green ="M-H"-25.2 dB
(Rt.=Red/Left=Blue) "L"-13.3
dB -12 -24 -36 -48 -60 -72 -84 -96 -108 -120 dB
Hz 5000 10000 15000 20000 25000 30000 35000 40000 Hz

Linear View

(at minimum recording adjust level)

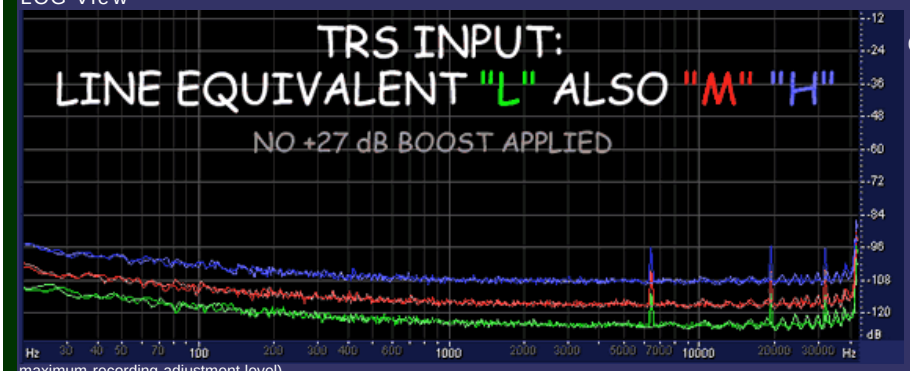
LOG



VIEW

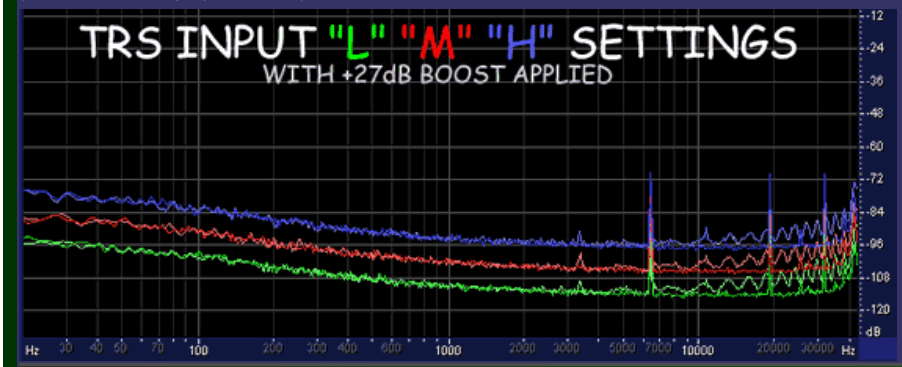
(at maximum recording adjustment level)

LOG View

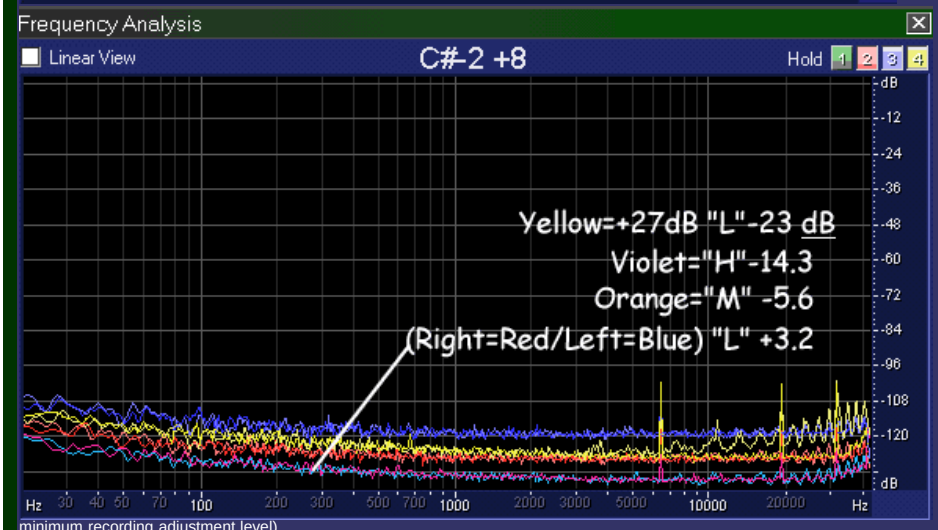


(at maximum recording adjustment level)

(at maximum recording adjustment level)



Dual TRS LINE level input, and next three gain MIC level settings.

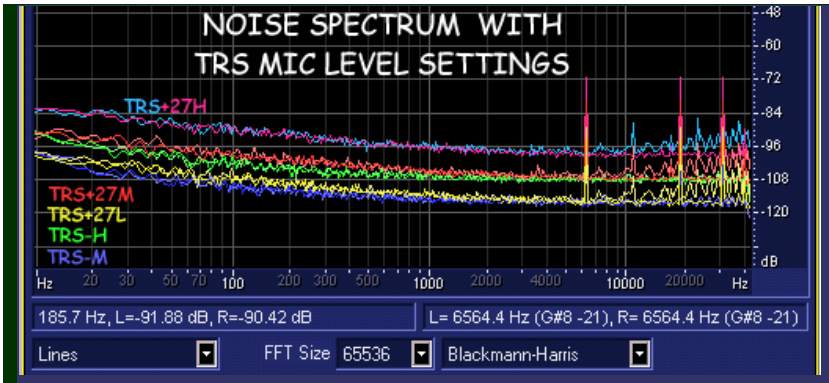


(at minimum recording adjustment level)

NOTE:

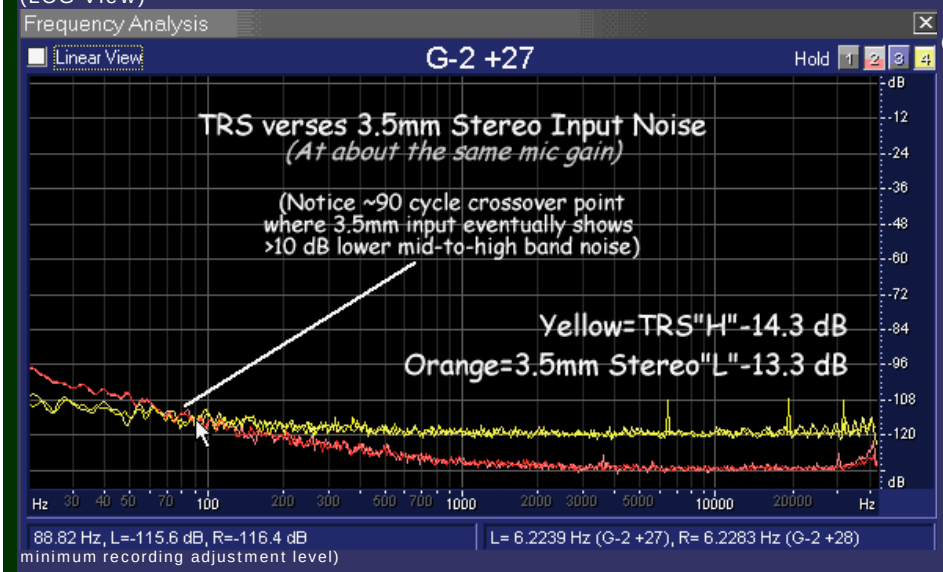
When compared, +27 dB boost mode (-23 dB yellow) shows lower low-bass to mid-high frequency band noise than lower mic gain setting (-14 dB violet) operating without +27 dB boost.

NOTE: When compared, +27 dB boost mode (TRS+27L yellow) shows lower low-bass to mid-high frequency band noise



than lower mic gain setting (TRS-H green) operating without +27 dB boost.

(LOG View)

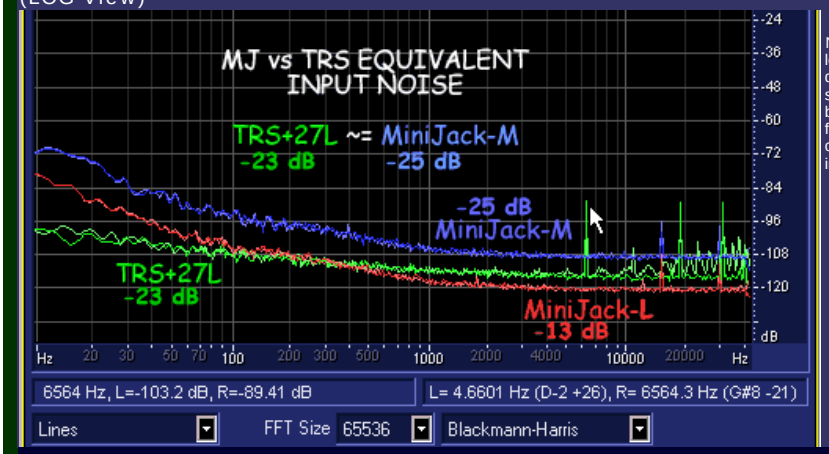

Frequency Analysis
Linear View
G-2 +27
Hold
TRS verses 3.5mm Stereo Input Noise
(At about the same mic gain)
(Notice ~90 cycle crossover point
where 3.5mm input eventually shows
>10 dB lower mid-to-high band noise)
Yellow=TRS"H"-14.3 dB
Orange=3.5mm Stereo"L"-13.3 dB
88.82 Hz, L=-115.6 dB, R=-116.4 dB
L= 6.2239 Hz (G-2 +27), R= 6.2283 Hz (G-2 +28)

(at minimum recording adjustment level)

Dual TRS-H vs. MJ-L input at ~equal gain

NOTE: Lower noise MJ input mid-bass to high frequency noise as compared to TRS mic gain set input.

(LOG View)



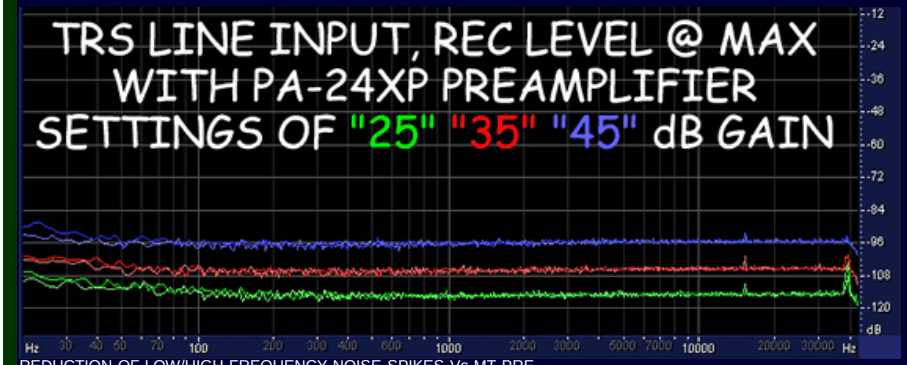
NOTE: TRS MIC level input with +27 dB boost "L" setting shows lower low - bass to mid-high frequency noise as compared to MJ input

Dual TRS+27dB boost-L vs. MJ-L input at near equal gain

USING EXTERNAL MIC PRE INTO TRS ANALOG LINE INPUT

PA-24XP MIC PRE CONVERTS MICROTRACK TO STELLAR PERFORMANCELOW-NOISE, HIGH DEFINITION DECK

NOTICE
TOTAL



REDUCTION OF LOW/HIGH FREQUENCY NOISE SPIKES Vs MT PRE

(REC level at maximum setting)

(PA-24XP input loaded with 1000 ohms to ground as was done for all graphs in this series)

The use of an external mic preamplifier of most compact size gives comparable audio performance to much larger, more costly, and far more power hungry 'all-in-one' decks (like excellent, and 'fuller featured' Sound Devices Series 7) for DSM stereo-surround 2-track recording.

200+ hours AA battery running time of PA-24XP, and 500+ with less featured PA-3SX-P configured with Microtrack deck being powered on external USB power sled allows continuous deck running time of up to 45 hours on common alkaline C and worldwide stocked D cells.

The external preamplifier configuration with Microtrack 24/96 deck is an affordable pocket sized solution for high definition 2 track, easily powered portable recording package.

MISC.: One needed improvement for having a more refined design is this deck's printed circuit board (PCB).

In my opinion, this board likely needs to go back to engineering for a redesign to eliminate switching power supply noises leaking into the analog stages (as seen in the above noise graphs of deck's internal mic level inputs).

WAV Recording Time in Seconds

Media Capacity (MB)	16 bit depth				24 bit depth			
	44100	48000 (sample rate)	88200	96000	44100 (sample rate)	48000	88200 (/96K)	
64	380	350	190	175	254	233	127	
128	761	699	380	350	507	466	254	
256	1522	1398	761	699	1014	932	507	
512	3043	2796	1522	1398	2029	1864	1014	
1024	6087	5592	3043	1 GIG 2796	4058	3728	2029	1 GIG
2048	12174	11185	6087	5592	8116	7457	4058	
4096	24348	22370	12174	11185	16232	14913	8116	
6144	36522	33554	18261	16777	24348	22370	12174	
8192	48696	44739	24348	22370	32464	29826	16232	

WAV Recording Time in H:M:S

Media Capacity (MB)	16 bit depth				24 bit depth			
64	0:06:20	0:05:50	0:03:10	0:02:55	0:04:14	0:03:53	0:02:07	
128	0:12:41	0:11:39	0:06:20	0:05:50	0:08:27	0:07:46	0:04:14	
256	0:25:22	0:23:18	0:12:41	0:11:39	0:16:54	0:15:32	0:08:27	
512	0:50:43	0:46:36	0:25:22	0:23:18	0:33:49	0:31:04	0:16:54	
1024	1:41:27	1:33:12	0:50:43	1 GIG 0:46:36	1:07:38	1:02:08	0:33:49	1 GI
2048	3:22:54	3:06:25	1:41:27	1:33:12	2:15:16	2:04:17	1:07:38	
4096	6:45:48	6:12:50	3:22:54	3:06:25	4:30:32	4:08:33	2:15:16	
6144	10:08:42	9:19:14	5:04:21	4:39:37	6:45:48	6:12:50	3:22:54	
8192	13:31:36	12:25:39	6:45:48	6:12:50	9:01:04	8:17:06	4:30:32	

MP3 Recording Time in Seconds

Media Capacity (MB)	MP3 bit rate						
	96000	128000	160000 Hi-Quality	192000	224000	320000	M
64	5592	4194	3355	2796	2397	1678	
128	11185	8389	6711	5592	4793	3355	
256	22370	16777	13422	11185	9587	6711	
512	44739	33554	26844	22370	19174	13422	
1024	89478	67109	1 GIG 53687	44739	38348	26844	1 GIG
2048	178957	134218	107374	89478	76696	53687	
4096	357914	268435	214748	178957	153392	107374	
6144	536871	402653	322123	268435	230088	161061	
8192	715828	536871	429497	357914	306783	214748	

Media Capacity (MB)	MP3 Recording Time in [Days]:H:M:S			MP3 Recording Time in [Days]:H:M:S		
64	[0]:1:33:12	[0]:1:9:54	[0]:0:55:55	[0]:0:46:36	[0]:0:39:57	[0]:0:27:58
128	[0]:3:6:25	[0]:2:19:49	[0]:1:51:51	[0]:1:33:12	[0]:1:19:53	[0]:0:55:55
256	[0]:6:12:50	[0]:4:39:37	[0]:3:43:42	[0]:3:6:25	[0]:2:39:47	[0]:1:51:51
512	[0]:12:25:39	[0]:9:19:14	[0]:7:27:24	[0]:6:12:50	[0]:5:19:34	[0]:3:43:42
1024	[1]:0:51:18	1 GIG [0]:18:38:29	[0]:14:54:47	[0]:12:25:39	[0]:10:39:8	[0]:7:27:24 1 GIG
2048	[2]:1:42:37	[1]:13:16:58	[1]:5:49:34	[1]:0:51:18	[0]:21:18:16	[0]:14:54:47
4096	[4]:3:25:14	[3]:2:33:55	[2]:11:39:8	[2]:1:42:37	[1]:18:36:32	[1]:5:49:34
6144	[6]:5:7:51	[4]:15:50:53	[3]:17:28:43	[3]:2:33:55	[2]:15:54:48	[1]:20:44:21
8192	[8]:6:50:28	[6]:5:7:51	[4]:23:18:17	[4]:3:25:14	[3]:13:13:3	[2]:11:39:8

MicroTrack power was read by connecting +5 volt, 600 ma. external BC-MT power sled, monitoring the sled current with deck operating modes.

Microtrack deck draws power directly from an internal 3.7V lithium-polymer battery of about 1150 mah capacity *(as reported in taperssection.com newsgroup)*. Unfortunately, it's buried inside a 'Chinese puzzle' of a plastic case, and seems not (easily) owner accessible. Measuring deck's power consumption required reading milliamperes current power draw from external USB power supply.

The USB connector *(located at the decks bottom side panel)* charges the battery from supplied universal AC adapter, or when deck's USB port is computer connected.

Using an external USB connected power source like BC-MT or MD-MT power sleds keeps battery fully charged with deck operating

TIP: With any source of external USB power, this deck DOES NOT power OFF. Connecting the AC adapter up to the USB port starts the automatic LOADING Firmware display. Microtrack seems to NEVER shut off with USB connected power. Manually shutting down (PWR button) ONLY blanks the LCD display while deck still draws 200 milliamperes in a 'STANDBY' mode. Pushing the PWR ON button *(anytime after 20-30 seconds of applying USB power)* gives 'already-booted' operation that's ready to record. So at least in theory, with external USB connected power, a field recordist can reliably have this deck start recording in a second's time by pushing PWR/REC buttons.

DECK MODES	No USB connection to external power sled	Deck OFF & Battery Charging	Deck ON & Battery Charging	Deck Recording with fully charged battery	Deck in Stop/Pause mode with full battery	Deck Off, battery full
Estimated BC-MT Power Sled Hours	20 milliamperes(ma.)	~200 to 300 ma.	~320-500 ma.	~250 ma.	~200 ma.	~200 ma.
	~300 Hours	~20-30 Hours	no time estimation possible	~20 Hours	~25 Hours	~25 Hours

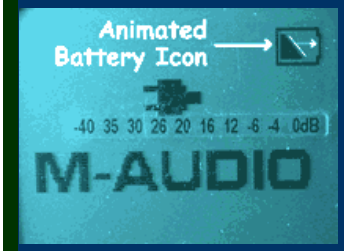
MT4 Series USB Power Sleds are very advanced Microtrack powering solutions

MT4 features smallest size, most efficient cell utilization, and highest reliability service

MT4 is a higher costing, higher performance Microtrack external charging/running solution.

Using only 4 C or D size alkaline cells, a special boost regulator extracts over 100% battery capacity for exceptionally long running times.

Full details on the External Power Systems CHART



With DECK OFF, plugging in charger shows sweeping battery icon indicating active charging.

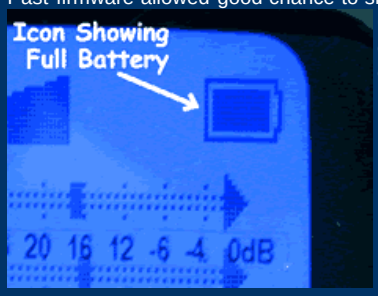
Battery charging indication(s) seems a bit confusing. Difficult to tell if battery is fully charged or charging. With deck booted up, and charger connected, the battery icon seems forever at 'CHG' regardless *(see icon at right)*.

After deck is ON a long time, even with being turned on with fully charged battery, it takes hours (it seems) for the 'PLUG' battery icon to show implying the deck is NOT CHARGING anymore, and now is working the external charger only as an 'AC adapter'..... ???

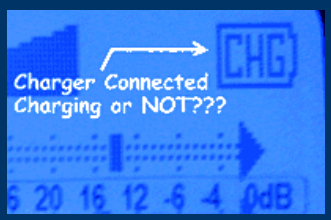
Latest firmware v1.4.3 addressed several issues of concern.

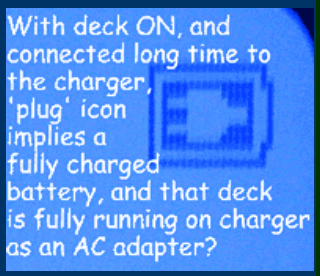
First was knowing if the internal battery needed additional charging. Past operation allowed immediate 'top-off' charge cycles, even if just charged up a few moments ago.

Past firmware allowed good chance to shorten battery life from OVER CHARGE with quickly repeated 'top-off' cycles.



Newest firmware reduces chance of damage by 'holding off' fast charger mode for a short period of time, reducing likely damage from quick succession of 'topping-off' cycles.'




With deck ON, and connected long time to the charger, 'plug' icon implies a fully charged battery, and that deck is fully running on charger as an AC adapter?

Partial list of tested and approved CF cards for the MicroTrack:

Hitachi Microdrive 2GB, 4GB, 6GB (few reported issues)
Seagate 5GB drive ("microdrive" type; some issues)
Transcend 4GB CF, 45x
Corsair 4GB CF (47-00057)
Lexar 1GB CF Professional 80x
SanDisk 1GB CF
JAMedia 1GB CF
Toshiba 512MB CF*
JAMedia 256MB CF
SimpleTech 128MB CF
Kodak 64MB & 1GB CF

Kingston Standard Series should fine work for most moderate audio recording rates

Transcend Series of flash seem a good priced brand at this time. Newest 1.4.6 firmware reportedly fixes previous issues with 8 GIG size

Kingston Elite Series have proven reliable for highest audio recording rates.

CF/1024-S 1 GB Compact Flash Card (SLC) (50x)
CF/2GB-S 2 GB Compact Flash Card (SLC) (50x)
CF/4GB-S 4 GB Compact Flash Card (SLC) (45x)

SanDisk ULTRA II Series

GENERAL NOTE: Tested OK for all Microtrack deck recording modes. These CF cards are Type 1 +45x speed, and now available in 8GB size. Recommended for reliability and low cost.

ADVISORY: As with most competitive type commodity products, most consistent performance is with purchasing the big name brand CF memory brands showing suitable specifications for your device.

*Toshiba 2GB CF tested too slow for any more than 24bit/48K rate requirements. A-Data brand has caused some compatibility issues for audio purposes.

NOTE: Microdrives greatly shorten battery run time. Usually by half as compared to CF.

TIP: Best to ALWAYS freshly format the CF card INSIDE the Microtrack whenever removed from the deck for purpose of transferring files with a separate card reader.

Also a very good idea to freshly format the card even if left always inside the deck. Do this every time all needed files have been safely transferred and all remaining files are to be deleted. Reformatting the CF card erases ALL stored files and allows most reliable new file creation by the deck. (Next Tip)

NOTE: Use ONLY non-accelerated types of memory for audio recording purposes. Advanced or 'extreme' types use a form of burst mode best for camera files, but burst modes may disrupt reliable audio recording and these types flash should be avoided.

This recently updated 7/18/2007 posted review of the Microtrack 24/96 is likely NOT yet finished; check back monthly for updated material

What's on ***Sonic Studios*** Web Site? *(Click underlined text, and navigation photos)*

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DSM™ Patented Stereo-Surround Microphone Technology

Eyegear/Headband/HRTF Baffle mountable matched omni mics

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